In the Abstract:

Please amend the abstract as follows:

Please replace the Abstract beginning on page 18 with the following rewritten Abstract:

--A translation loop modulator for a transmission circuit in a communication system includes an input modulation unit for receiving at least one input signal that is representative of information to be modulated. The input modulation unit also receives a feedback signal, produces an intermediate modulated signal responsive to the input signal and the feedback signal. The modulator also includes a comparator unit that receives the intermediate modulated signal and a reference signal, and produces an output transmission signal responsive to the intermediate modulated signal and the reference signal. The modulator also includes feedback circuitry that is coupled to the output transmission signal, and to the reference signal. The feedback circuitry is also coupled to the input modulation unit and produces the feedback signal responsive to the output transmission signal and the reference signal.—

REMARKS

The drawings are objected to as failing to comply with 37 C.F.R. §1.84(p)(5) because they include elements that only have numbers but no labels. Figures 2 and 3 have been amended to include labels in accordance to the suggestions of the Examiner.

The Examiner has objected to the abstract because of the use of the word "disclosed." Applicants have amended the abstract to address the Examiner's concern.

Attached hereto is a marked-up version and a clean copy of the changes made to the specification and abstract by the current amendment. The attached pages are captioned

"Marked up Version of Amended Abstract", "Marked up Version of Amended Specification", "Clean Copy of Amended Abstract", and "Clean Copy of Amended Specification."

Examination on the merits is respectfully requested.

Respectfully submitted,

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Marked up Version of Amended Abstract

(Amended) A translation loop modulator [is disclosed] for a transmission circuit in a communication system [. The translation loop modulator] includes an input modulation unit for receiving at least one input signal that is representative of information to be modulated. The input modulation unit also receives a feedback signal, produces an intermediate modulated signal responsive to the input signal and the feedback signal. The modulator also includes a comparator unit that receives the intermediate modulated signal and a reference signal, and produces an output transmission signal responsive to the intermediate modulated signal and the reference signal. The modulator also includes feedback circuitry that is coupled to the output transmission signal, and to the reference signal. The feedback circuitry is also coupled to the input modulation unit and produces the feedback signal responsive to the output transmission signal and the reference signal.

Clean Copy of Amended Abstract

A translation loop modulator for a transmission circuit in a communication system includes an input modulation unit for receiving at least one input signal that is representative of information to be modulated. The input modulation unit also receives a feedback signal, produces an intermediate modulated signal responsive to the input signal and the feedback signal. The modulator also includes a comparator unit that receives the intermediate modulated signal and a reference signal, and produces an output transmission signal responsive to the intermediate modulated signal and the reference signal. The modulator also includes feedback circuitry that is coupled to the output transmission signal, and to the reference signal. The feedback circuitry is also coupled to the input modulation unit and produces the feedback signal responsive to the output transmission signal and the reference signal.

phase comparitor and charge pump device 86, and a [bandpass] filter 88.

The output of the filter 88 is coupled to a pair of VCOs 90 and 92, each of which is in turn coupled to an amplifier 94 and 96 respectively, and finally an output antenna 98. The transmitter output may be switched between each output path to provide operation at of two transmission standards. The two chosen transmission standards may be any of a variety of standards, e.g., GSM and DCS.

The feedback path includes a matching or switching device that alternately receives input signals from the output of one or the other of the VCOs 90 or 92. The output of the device 100 is presented as in input to the downconverter mixer 80. The output of the mixer 80 is coupled, via a bandpass filter 102, to the quadrature modulator components as a feedback signal. The quadrature modulator components include I and Q channel mixers 104, 106, a phase shift device 108, a summation device 110, and bandpass filter 112 as shown.

The operation of the translation loop modulator of Figure 3 is similar to that discussed above with reference to the embodiment shown in Figure 2. The local oscillator output signal 76 of the system of Figure 3, however, is also fed to a receiver circuit in the system of Figure 3. In particular, the local oscillatory signal 76 is coupled, via a frequency divider 114 (e.g., divide by 3), to an oscillator loop including a mixer 116, another frequency divider 118 (e.g., divide by 4), a VCO 120, and a low pass loop filter 122. The output of the VCO 120 is also coupled to each of two signal receive paths, e.g., one for GSM and the other for DCS systems.

The first signal receive path from the antenna 98 is coupled, via a bandpass filter 124 (e.g., SAW) and an amplifier 126 to a quadrature demodulation circuit including a pair of

phase comparitor and charge pump device 86, and a filter 88.

The output of the filter 88 is coupled to a pair of VCOs 90 and 92, each of which is in turn coupled to an amplifier 94 and 96 respectively, and finally an output antenna 98. The transmitter output may be switched between each output path to provide operation at of two transmission standards. The two chosen transmission standards may be any of a variety of standards, e.g., GSM and DCS.

The feedback path includes a matching or switching device that alternately receives input signals from the output of one or the other of the VCOs 90 or 92. The output of the device 100 is presented as in input to the downconverter mixer 80. The output of the mixer 80 is coupled, via a bandpass filter 102, to the quadrature modulator components as a feedback signal. The quadrature modulator components include I and Q channel mixers 104, 106, a phase shift device 108, a summation device 110, and bandpass filter 112 as shown.

The operation of the translation loop modulator of Figure 3 is similar to that discussed above with reference to the embodiment shown in Figure 2. The local oscillator output signal 76 of the system of Figure 3, however, is also fed to a receiver circuit in the system of Figure 3. In particular, the local oscillatory signal 76 is coupled, via a frequency divider 114 (e.g., divide by 3), to an oscillator loop including a mixer 116, another frequency divider 118 (e.g., divide by 4), a VCO 120, and a low pass loop filter 122. The output of the VCO 120 is also coupled to each of two signal receive paths, e.g., one for GSM and the other for DCS systems.

The first signal receive path from the antenna 98 is coupled, via a bandpass filter 124 (e.g., SAW) and an amplifier 126 to a quadrature demodulation circuit including a pair of